Patent Claims

1. Method for producing a gas discharge device, in particular a discharge lamp or a plasma display unit, in which a discharge vessel of the gas discharge device is filled with a gas filling and then sealed, characterized in that the filling and sealing of the discharge vessel are performed in a chamber (10) which is purged with the gas filling at superatmospheric pressure.

2. Method according to Claim 1, in which the chamber (10) can be heated.

3. Method according to Claim 1 or 2, in which the superatmospheric pressure is at least 10 mbar.

4. Method according to one of the preceding claims, in which a gas outlet line (9) is used for purging.

5. Method according to one of the preceding claims, at least Claim 2, in which the chamber (10) is cooled by contact with a water-cooled cooling block after sealing of the discharge vessel.

6. Method according to one of the preceding claims, at least Claim 2, in which the discharge vessel is heated in an oxygen-containing atmosphere before the filling.

7. Method according to one of the preceding claims, in which the discharge vessel is purged with an inert

gas before the filling and, if appropriate, after the heating in the oxygen-containing environment.

8. Method according to one of the preceding claims, in which the discharge vessel is filled with a gas filling which contains a buffer gas for increasing the internal pressure in addition to the discharge gas provided for the light generation.

9. Method according to one of the preceding claims, in which the discharge vessel is filled with a gas filling which, in addition to the discharge gas provided for the light generation, contains an inert gas with a Penning effect with reference to the discharge gas.

10. Method according to one of the preceding claims, in which the discharge gas provided for the light generation is Xe, and the discharge vessel is filled with a partial pressure of Xe such that at room temperature it includes an Xe partial pressure in the range of 60-350 mbar.

11. Method according to one of the preceding claims, in which an inert gas freezer or collector is connected to the chamber (10).

12. Method according to one of the preceding claims, in which the inert gas flow is cut off after the sealing of the discharge vessel.

13. Method according to Claim 12, in which a switchover is made to a more cost-effective gas after the sealing of the discharge vessel.

14. Method according to one of the preceding claims, at least Claim 2, in which the gas filling containing the discharge gas provided for the light generation and, if appropriate, gases to be introduced thereafter into the chamber (10) flow in at a temperature which corresponds substantially to the discharge vessel temperature present in this case.

15. Method according to one of the preceding claims, in which the chamber (10) has at least for the most part wall thicknesses (3, 11) of not more than 8 mm.

16. Method according to one of the preceding claims, in which the discharge vessel is heated, purged, filled and sealed in one and the same chamber (10).

17. Method according to Claim 16, in which the chamber (10) can be opened by separating two chamber parts (2, 3), and a pressure force can be applied to a bearing surface between the two chamber parts (2, 3) via a vacuum channel (6).

18. Method according to one of the preceding claims, in which the gas discharge device is designed as a discharge lamp for dielectrically impeded discharges.

19. Method according to one of the preceding claims, in which the gas discharge device is a flat radiator or a plasma display unit with a discharge vessel which has two substantially plane-parallel discharge vessel plates.